

some of the segments; spiracles wholly whitish; head concave on top, brown, marked irregularly with darker brown, a row of three orange yellow spots on each side of the face and an additional one on each side of the head; posterior part of head where it joins the body velvet black, which color is interrupted above; length, 21 mm. Found two May 8, 1887, near Los Angeles, Cal., living singly in a nest of leaves on *Hosackia glabra*. One pupated May 14th and the butterfly issued June 4th.

NOTE ON THE SEVENTEEN-YEAR CICADA.

BY BENJAMIN LANDER.

Having had exceptional opportunities in 1894 to study the habits of the seventeen-year Cicada, I sent from time to time the results of my observations to the late Professor Lintner, then the State Entomologist at Albany, who requested me to watch for "left overs," as he termed them—belated ones likely to appear in 1895 and 1896. In both those years I noticed a few in the woods back of Nyack. Last year I was not so fortunate, but I heard of two specimens that were seen in the pupa state.

It will no doubt be interesting to those who have specially studied the Cicada to learn that during the last summer there were great numbers seen and heard in the woods and orchards about Nyack; even in the village streets. So many, in fact, that in some places in the woods their peculiar note could be heard almost continuously. On one tree back of my house I counted nine pupa-cases.

It is not at all likely that these were "left overs" from the great Hudson River Valley brood of 1894. It seems altogether likely that they were a part of brood XVII, of 1898, which are recorded as having appeared in the counties of Westchester and Richmond of this state, and in Essex County, New Jersey. If so, this is probably the first note of their occurrence in Rockland County, N. Y.

On June 10th, while visiting a piece of woods where the Cicadas appeared in vast numbers in 1894, I could hear them in every direction, but what was of far more interest to me, I saw the ruins of four

of their singular mud structures capping their burrows ; one of them fairly well preserved as to shape, but badly washed. Probably a more extended search would have revealed others, though few could have stood the long rains.

Early in April, 1894, I discovered several widely extended areas thickly studded with sun-baked mud Cicada huts, three or four inches high, built in extension of the burrows at the surface of the ground ; the first account of which was published in the *New York Times*. Subsequently I offered in the *Scientific American* a theory as to the cause of the phenomenon and a more extended notice in this journal for March, 1895.

I had observed that the huts were weather-worn as if from rain. It was evident that they had been built in March, which I remembered was an unusually warm month. Inquiries at the weather station in New York showed that that month had been the hottest March of which there was any record.

It seemed probable that the builders of the huts had been prematurely stirred to activity by the phenomenal warmth, but the colder weather that followed prompted them to close their burrows with mud caps to await a more propitious season or full maturity to cast their pupa-cases and emerge in their imago state.

Of course there was some special reason for the close aggregation of such vast numbers of huts in more or less well-defined limits. Investigation showed that in all the hut areas I discovered the soil was thinly overlying a rocky foundation, either near quarries or on top of the rocky hills, and on the Palisades, worn down by glacial action. Some areas had been recently burned over, exposing the soil to the full heat of the sun.

It seemed probable, therefore, that the abnormal heat of March and the fact that the hut-builders were in shallow burrows were the causes that had impelled the insects to prematurely open their burrows which they subsequently closed with mud caps. Of course any pupa that happened to be near the surface, no matter how deep the soil beneath it, would be like affected.

This brief summary is for the purpose of accentuating the fact that the finding of Cicada huts in 1898 under exactly the same circumstances goes far towards demonstrating the truth of the theory.

March of 1898 was very warm ; the weather bureau at New York reports that the mean temperature was but $\frac{1}{3}$ of one degree lower than

March of 1894, which was the hottest month of March on record. March of 1898 was, like that of 1894, followed by a long season of cold and wet weather. Moreover, the huts found last summer were on one of the areas where they occurred in 1894. In shallow soil over smooth rocks on the hill top.

NEW SPECIES OF LITHOSIIDÆ FROM TROPICAL AMERICA.

BY WILLIAM SCHAUS.

***Pronola magniplaga*, sp. nov.**

♂. Color head and thorax light yellow, palpi brown. Abdomen brown above, last segment and underneath yellow; legs yellow. Primaries above with a large lilacine brown spot, leaving the base, costal margin narrowly, apex, and outer margin yellow; fringe brown on inner margin and at inner angle, otherwise yellow; a cluster of darker scales on the inner margin near the angle. Underneath the spot is replaced by brownish shadings and the hairs in cell are blackish brown. Secondaries above whitish at the base, somewhat tinged with yellow outwardly; the outer margin broadly brownish, except at apex; underneath yellowish with the fringe on outer margin brownish. Expanse, 17 mm.

Habitat: São Paulo, S. E. Brazil.

***Pronola diffusa*, sp. nov.**

Body creamy white. Primaries above creamy white, the inner margin and outer portion of the wing clouded with grayish brown, leaving the apex, outer margin, and a spot in the cell creamy white. Underneath pale yellowish with a broad brown spot extending from the inner margin near the angle and not reaching the costa. Secondaries yellowish white. Expanse, 16 mm.

Habitat: Peru.

***Eugonosia angulifer*, sp. nov.**

Entirely pale yellowish red, the primaries with all the margins finely black, and a fine black line extending from the inner margin at a third from the base to the end of the cell where it forms an angle and then descends to the outer margin at the end of vein two; a few blackish scales extend from the angle itself to the costal margin. Expanse, 22 mm.

Habitat: Castro, Parana.

***Talara rufa*, sp. nov.**

Head and thorax brownish. Abdomen deep yellow with a brown subdorsal line. Primaries above reddish yellow, thickly irrorated with lilacine brown scales, espe-